

CLAIMS

What is claimed is:

1. A method for providing blade server load balancing using spare link bandwidth in a multi-server platform having a common backplane, comprising:
 - a. receiving digital information on a digital communications link at a blade server manager;
 - b. receiving capacity utilization information embedded in spare link bandwidth from a plurality of blade servers operably coupled to the blade server manager;
 - c. selecting a blade server to receive said digital information based on the received capacity utilization information; and
 - d. forwarding the received digital information to the selected blade server.
2. The method of claim 1, wherein said embedded capacity utilization information is data representing blade server CPU percent utilization.
3. The method of claim 1, wherein said embedded capacity utilization information is data representing blade server interrupt utilization.
4. The method of claim 1, wherein the blade server manager is operably coupled to an Ethernet network.
5. The method of claim 1, wherein the blade server manager is operably coupled to an external network.
6. The method of claim 1, wherein the blade server manager is operably coupled to an external network at a link data rate of 10 Gigabits per second.

7. The method of claim 1, wherein the blade server manager communicates with each blade server over a dedicated link.
8. The method of claim 7, wherein the data rate of the dedicated link is 1 Gigabit/second.
9. The method of claim 1, wherein the blade server utilization information is embedded in frame alignment information.
10. The method of claim 9, wherein the embedded capacity information is represented with at least two symbols.
11. The method of claim 9, wherein the embedded capacity information is represented with expanded control characters.
12. The method of claim 1 wherein the selecting is based on a load balancing algorithm.
13. A blade server with load balancing using spare link bandwidth, comprising:
 - a server including a blade server manager, two or more blade servers, and a common backplane;
 - a network interface for communicating with an external network; and
 - two or more blade server interfaces for communicating between the blade server manager and each blade server;
 - wherein said blade server manager allocates data received from said external network to each blade server based on embedded capacity utilization data transmitted by each blade server to the blade server manager that is embedded in spare link bandwidth on said interface between the blade server manager and each of said blade servers.
14. The system of claim 13, wherein said embedded capacity utilization data information is data representing blade server CPU percent utilization.

15. The system of claim 13, wherein said embedded capacity utilization data represents blade server interrupt utilization.
16. The system of claim 13, wherein the blade server manager is operably coupled to an Ethernet network.
17. The system of claim 13, wherein the blade server manager is operably coupled to an external TCP/IP network.
18. The system of claim 13, wherein the blade server manager is operably coupled to an external network with a communications link having a data rate of 10 Gigabits per second.
19. The system of claim 13, wherein the blade server manager communicates with each blade server over a dedicated link having a data rate of 1 Gigabit/second.
20. The system of claim 13, wherein the blade server utilization information is embedded in frame alignment information.
21. The system of claim 13, wherein the embedded capacity information is represented with at least two symbols.
22. The system of claim 13, wherein the embedded capacity information is represented with expanded control characters.
23. The system of claim 13, wherein said blade server allocates data received from said external network to each blade server using a load balancing algorithm, and wherein said load balancing algorithm utilizes said embedded capacity utilization data.
24. The system of claim 13, wherein said capacity utilization data is embedded in the inter packet gap.
25. The system of claim 13, wherein said capacity utilization data is embedded in the control words bounding a data word.